MDEQ is exploring an approach that applies multiple lines of information to build a Factor 6 demonstration. Factor 6 is using economics to determine whether a variance should happen.

The following types of information will be considered:

1. EPA Guidance—Private Side
    a. MDEQ will provide the EPA-created templates to private dischargers using their 1995 Guidance. If plants in Montana are willing to share their financial data as requested by the EPA guidance, that information will be used by MDEQ.
    b. Industry (big oil, at least) has said they will NOT give us that data, so this is probably a no go.
    c. In addition, EPA private-side Guidance is unclear and would take more expertise than we have
    d. While most dischargers may not offer detailed financial information, some may be willing to demonstrate that they exceed a specific threshold (e.g., costs to revenue) that demonstrates hardship. Some may also run the EPA guidance private tests and give us a result without divulging their specific financial data. Doug Parker will check that out.

2. Other cost data that may be used instead of EPA guidance
    a. In 2009, several industry sectors presented to the Nutrient Work Group treatment information with associated costs. These presentations may provide useful financial information for oil and gas and mines. Stillwater Mine implements land application, RO, and microfiltration and discharges to groundwater that connects to Surface Water. This example could be useful to evaluate what nitrogen concentrations can be achieved using RO and could be used to determine costs per reduction in nitrogen concentrations.
    b. The WERF study gives marginal costs per lb of N and P removed for all levels of nutrient treatment (Levels 1-5). Costs go up dramatically at Level 5 which is close to our stringent base criteria.
    c. If we use RO to get to base nutrient criteria, what are the costs for brine disposal, especially if ~50 dischargers across the state were trying to transport brine and find appropriate disposal methods?

3. Another strategy: MDEQ will demonstrate that companies cannot consistently meet the base numeric criteria of 0.3 mg/L TN and .03 mg/L TP (these numbers may be higher in eastern Montana).
    a. TN is the criteria that may be impossible to achieve with today's technology.
    b. Evidence will be used from Mike Suplee's knowledge of the literature and technology, from the WERF Interim Study, from the WEF/WERF Cooperative Study of Achievable technology, and other appropriate studies.

4. MDEQ will explore the implications of no company being able to reach the criteria numbers

a. Does every company have to shut down? Unlikely due to the way permits are written.
b. More likely the impacts on private businesses are incremental. Perhaps companies would have to Scale back production
    1. Implications of scaling back production
    2. Is scaling back production going to cause S&W impacts?
    3. What is the effect on new businesses coming in (especially those larger ones that might be affected like new mines, etc)
c. Companies might explore non-discharging options like land app.
    1. Where is land app possible (not everywhere)
    2. Where it is possible, do costs create S&W impacts?
d. Companies might treat up to LOT, if criteria cannot be technologically met
    1. What technology is this
    2. What are the costs of this?

5. Description of the Economics of Montana that may help with this demonstration:
    a. Describe Montana's unique position of having little manufacturing and lower than average economic activity per capita (many reasons for that)
    b. The University of MT's Bureau of Economic Research maintains financial information on various industrial sectors, especially the extractive sectors. MDEQ will learn what financial information can be obtained from this group and/or if the group is willing to work with the State on the S&W demonstration.
    c. Barb Wagner at Dept of Commerce has done a study on Montana's economy.

6. Consider Factor 3—Environmental tradeoffs as a supplement to Factor 6.
    a. Treating more the very stringent base criteria (0.3 TN, .03 TP) versus treating to the less stringent SB367 variance levels (10 TN, 1 TP) results in greater GHGs, chemical inputs, and brine disposal if using RO.
    b. Marginal costs of more stringent treatment in terms of GHG. GHG costs are the margin go up exponentially at WERF levels 4 and 5 treatment.